

REMARKS

Claims 1, 3-5, 7-11, 13-15 and 17-21 are pending in this application. Claims 1 and 11 are independent claims. By this Amendment, claims 1 and 11 are amended. No new matter is added.

Claim Rejections under 35 U.S.C. §112

Claims 1 and 11 are rejected under 35 USC §112, second paragraph, for allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. The rejection is respectfully traversed.

Claims 1 and 11 are amended to clarify the claimed subject matter. Therefore, withdrawal of the rejection is requested.

Claim Rejections under 35 U.S.C. §103

Claims 1 and 11 are rejected under 35 USC §103(a) as being unpatentable over U.S. Patent 5,896,021 to Kumar ("Kumar") in view of U.S. Patent 4,596,911 to Guery et al. ("Guery"). The rejection is respectfully traversed.

Independent claims 1 and 11 are amended to recite "a switch within the protective device operatively connected to the first protective element, the switch configured to turn off the electronic switching device." Neither Kumar nor Guery disclose or suggest the claim feature.

Kumar relates to techniques for preheating induction motors in transit cars prior to departure to remove moisture that may have accumulated in the motor due to weather conditions (col. 1, lines 20-40). As shown in FIG. 1 of Kumar, an electric power system for a transit car includes a pantograph 112 adapted to make contact

with an overhead catenary 114 which may carry 25,000 volts at 60 Hz. The voltage received at the pantograph is coupled through a fuse 116 to a first terminal of a primary winding 118 of a power transformer 120. A second terminal of the primary winding 118 is coupled to ground through the axles and wheels of the transit car to the rails on which the transit car operates. In the illustrated embodiment, the transformer 120 includes an auxiliary winding 122 which supplies voltage to an auxiliary power system and a main winding 124 which supplies power to drive the transit car. The main winding 124 is connected through a **fuse 126, a circuit breaker 128** and a pair of line reactors 130 and 132 to a **first inverter group 1** which supplies power to a pair of **traction motors M1 and M2** (col. 2, lines 1-15).

It is alleged in the Office Action that the circuit breaker 128 and the fuse 126 correspond to the claimed “first protective element” and the claimed “second protective element”, respectively. It is further alleged that the first inverter group 1 corresponds to the claimed “electronic switching device.” It is further alleged that the circuit breaker 128 and the fuse 126 are “within the protective device” and that the traction motors M1, M2 are outside of the protective device. However, it is at best unclear from the disclosure of Kumar as to what is the boundary of the alleged protective device. Thus, a factual determination of whether the circuit breaker 128 and the fuse 126 are “within the protective device” cannot be made.

It also alleged in the Office Action that the fuse 126 (i.e., the alleged second protective element) “inherently has such a rating that it is capable of protecting the semiconductor of the inverter group 1 (presumed to be the GTO devices) against an overload, such as for example, the short-circuit of the motor, since otherwise the fuse would be useless.”

The fact that a certain result or characteristic may occur or be present in the prior art is not sufficient to establish the inherency of that result or characteristic. *In re Rijckaert*, 9 F.3d 1531, 1534, 28 USPQ2d 1955, 1957 (Fed. Cir. 1993) (reversed rejection because inherency was based on what would result due to optimization of conditions, not what was necessarily present in the prior art); *In re Oelrich*, 666 F.2d 578, 581-82, 212 USPQ 323, 326 (CCPA 1981). “To establish inherency, the extrinsic evidence ‘must make clear that the missing descriptive matter is necessarily present in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient.’ ” *In re Robertson*, 169 F.3d 743, 745, 49 USPQ2d 1949, 1950-51 (Fed. Cir. 1999)

There is nothing inherent about the protective capability of a fuse, nor is it inherent that the fuse 126 inherently has a rating sufficient to provide short circuit protection of both the first protective element (i.e., the circuit breaker 128) and the motors M1, M2. For example, the fuse could have a rating to protect only the circuit breaker 126 or the motors M1, M2. Those devices may have very different requirements for short-circuit protection. There is nothing to indicate that sufficient short-circuit protection will always flow naturally from the fuse 126.

It is admitted in the Office Action that Kumar fails to disclose or suggest the first and second protective elements being mechanically integrated. To overcome the deficiency, it is alleged that one of skill in the art at the time of the present invention would have modified the transit car of Kumar to include the teachings of Guery related to an isolating switch-circuit breaker.

Even considering *arguendo* that the references are combinable and one of skill in the art would have sought to modify Kumar as proposed, the combination of references still fails to disclose or suggest the second protective element is designed to provide overload protection for an electronic switching device located outside of the protective device and including a semiconductor, the electronic switching device being between the protective device and the motor, the electronic switching device being in series with the first protective element, and a switch within the protective device operatively connected to the first protective element, the switch configured to turn off the electronic switching device, as recited in the rejected claims as amended.

Because the combination of references fails to render the rejected claims obvious, withdrawal of the rejection is requested.

Claims 7 and 17 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kumar in view of Guery and current design practice. The rejection is respectfully traversed.

Claims 7 and 17 are allowable for their dependency on their respective base claim, as well as for the additional features recited therein. As such, withdrawal of the rejection is requested.

Claims 5, 10, 15 and 20 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kumar in view of Guery and U.S. Patent 4,691,197 to Damiano et al. ("Damiano"). The rejection is respectfully traversed.

Claims 5, 10, 15 and 20 are allowable for their dependency on their respective base claim, as well as for the additional features recited therein. As such, withdrawal of the rejection is requested.

Claims 3, 4, 13, and 14 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kumar in view of Guery and U.S. Patent 2,324,852 to Frank ("Frank"). The rejection is respectfully traversed.

Claims 3, 4, 13, and 14 are allowable for their dependency on their respective base claim, as well as for the additional features recited therein. As such, withdrawal of the rejection is requested.

Claims 8, 9, 18, 19 and 21 stand rejected under 35 U.S.C. §103(a) as being unpatentable over Kumar in view of Guery, U.S. Patent 5,223,681 to Buehler et al. ("Buehler") and Frank. The rejection is respectfully traversed.

Claims 8, 9, 18, 19 and 21 are allowable for their dependency on their respective base claim, as well as for the additional features recited therein. For example, it is alleged that Buehler discloses a modular design approach and that it would have been obvious to modify the components of Kumar in modular form having the same mounting dimensions.

Buehler discloses a molded case circuit breaker and suggests modular design of the device. However, Buehler does not disclose or suggest making the circuit breaker to have the same width as a switch to which the circuit breaker is connected. Further, although the Office Action alleges that it would have been obvious to modify the components of the transit car of Kumar in a modular fashion, it is unclear if the components lend themselves to modular design.

Even considering arguendo that one of skill in the art would have been motivated to manufacture elements of Kumar in modular form, there is nothing to indicate that the inverter group 1 (i.e., the alleged switching device) could have the same dimensional width as the protective device (which size is not provided in the

reference or identified in the Office Action). As such, withdrawal of the rejection is requested.

CONCLUSION

In view of the above remarks and amendments, Applicants respectfully submit that each of the rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact John W. Fitzpatrick at the telephone number below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

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By

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